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12/16/02*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application

Inventor(s): Morales, et al.

SC/Serial No.: 09/773,312

Filed: January 31, 2001

Title: METHODS FOR CHARACTERIZING AND
REDUCING ADVERSE EFFECTS OF TEXTURE
OF SEMICONDUCTOR FILMS

) PATENT APPLICATION

) Art Unit: 2812

) Customer No. 23910

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited in the United States Postal Service with sufficient postage as first class mail in an envelope addressed to **Box Missing Parts, Commissioner for Patents, Washington, DC 20231**, on January 11, 2002.

D. Benjamin Borson (Attorney Signature)
D. Benjamin Borson, Ph.D., Reg. No. 42,349
Signature Date: January 11, 2002

RESPONSE TO OFFICE ACTION UNDER 37 C.F.R. § 1.111

Commissioner for Patents
Washington, DC 20231

Sir:

This RESPONSE is in reply to the Office action mailed December 3, 2001. The Examiner noted incorrect numbering of certain claims and re-numbered those claims after original Claim 12. Thus, 47 claims were filed in this case.

The Examiner issued a restriction requirement, dividing the pending claims into 4 groups:

Group I: Claims 1 - 25, 29 and 30 drawn to a process of reducing diffusion of dopant ions from a doped dielectric layer into a metal layer;

Group II: Claims 26-28 drawn to a process of making a semiconductor device;

Group III: Claims 31 and 32 drawn to a semiconductor device; and

Group IV: Claims 33 - 47 drawn to a process of testing a semiconductor device.

Applicant herein elects Group I claims 1-25, 29 and 30. Applicant withdraws claims 26-28 and 31-47 without prejudice, retaining the right to file those claims in continuing applications.

Amendments

Please amend the above-identified application as follows:

In the Claims:

Please renumber the claims after original Claim 12 and amend re-numbered Claims 15, 23, 24, 34, 36, 37 and 39 - 47 as indicated. All pending claims are reproduced below, including those that remain unchanged. Marked up copies of the amended claims illustrating the changes are shown in the Appendix to this Response.

- Sub B1
1. A method for reducing diffusion of dopant ions from a doped dielectric layer into a metal layer, comprising:
 - (a) depositing on said metal layer, a diffusion barrier; and then
 - (b) depositing a layer of doped dielectric material on said diffusion barrier.
 - Al
 2. The method of claim 1, wherein said diffusion barrier is a layer of metal nitride.
 - Sub B2
 3. The method of claim 1, wherein said diffusion barrier is a layer of metal oxynitride.